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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FERGUSON, MICHAEL P

ART UNIT

PAPER NUMBER

3679

DATE MAILED: 06/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,743

Applicant(s)

BRIDGERS, STEVEN B.

Examiner

Michael P. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, actuating systems; means for varying the effective length of spring members; and means for changing the effective lengths of connecting members must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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4. Claims 14 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 14 recites "including electromagnetic means for varying the effective length of said spring members". The specification does not describe how one skilled in the art may use electromagnetic means to vary the effective length of such spring members nor describe the usefulness of such means, thus the specification does not enable one to make such an embodiment of the invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 5- 11, 13, 15- 18 are rejected under 35 U.S.C. 102(b) as being anticipated by McGaffigan (USPN 5,443,549).

As to claim 1, McGaffigan discloses a connector system having:

a plurality of nodal body members **25, 33**; and

a plurality of compliant strut members **1** structurally connected to the body members, each strut member having a center link member **5** and distal spring members **18** adjacent a nodal body member thereby accommodating universal relative movement

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between the nodal body members (Figures 1A- 6, column 4 lines 20- 65, column 5 lines 3- 22).

As to claim 2, McGaffigan discloses a connector system having spring members **18** uniformly radially spaced (Figures 1A- 6).

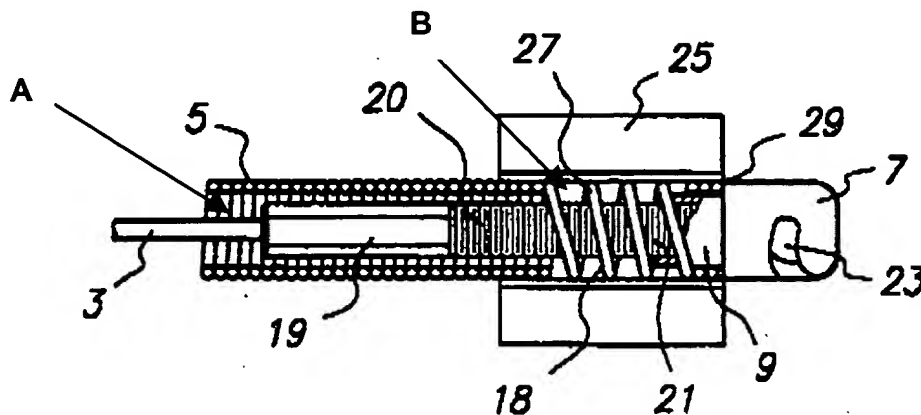
As to claim 5, McGaffigan discloses a connector system wherein spring members **18** are helically coiled springs (Figures 1A- 6).

As to claim 6, McGaffigan discloses a connector system wherein in helically coiled springs **18** are extension springs (Figures 1A- 6, column 6 lines 41- 68).

As to claim 7, McGaffigan discloses a connector system wherein in helically coiled springs are compression springs (column 6 lines 41- 68).

As to claim 8, McGaffigan discloses a connector system having a link member **5** having an adjustable length (Figures 1A- 6, column 5 lines 3- 22, column 7 lines 19- 47).

As to claim 9, McGaffigan discloses a connector system having a link member **5** and nodal members **25**, **33** having operative cavities (**A**, **B**, respectively) intercommunicating at spring members **18** (cavity **A** in link member **5** and cavity **B** in nodal member **25** intercommunicate via tension cable assembly **3**, **19**, **20**; spring member **18** abutting the end surface of link member **5** and the interior surface of nodal member **25**; Figures 1A and 2A).

**FIG. 2A**

As to claim 10, McGaffigan discloses a connector system having actuating systems 3, 19, 20 deployed in cavities A, B, effective for selectively varying the effective length of a link member 5 (tension cable assembly 3, 19, 20 extends within cavity A in link member 5 and cavity B in nodal member 25; Figures 1- 6).

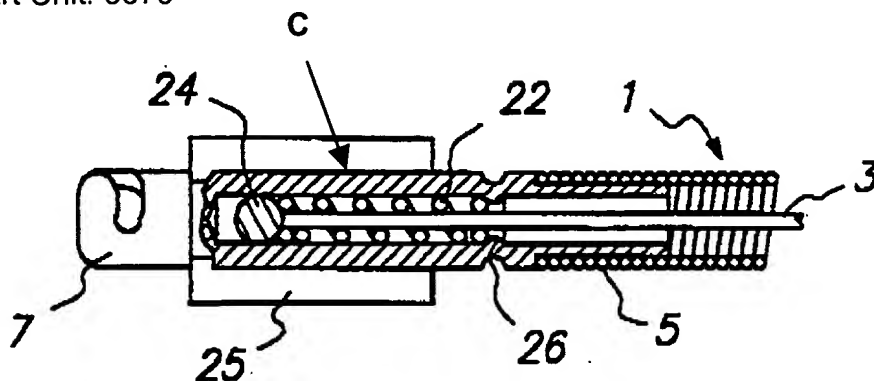
As to claim 11, McGaffigan discloses a connector system having nodal bodies 33 disposed in a three dimensional array (Figures 1A and 2A).

As to claim 13, McGaffigan discloses a connector system having means (tension cable 3) for varying the effective length of spring members 18, 22 (Figures 1A- 6, column 5 lines 3- 22, column 7 lines 19- 47).

As to claim 15, McGaffigan discloses an internodal connector architecture system having:

a plurality of nodal body members 25, 33, each of the body members having a plurality of compliant strut members 1 attached thereto, each strut member including a spring member 22 adjacent the nodal member and an elongated hollow link member C, 5 connected to a link member C on an adjacent nodal member (Figure 3A).

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**FIG. 3A**

As to claim 16, McGaffigan discloses an internodal connector architecture system having:

a plurality of nodal sites **25**, **33** universally compliantly operatively interconnected at helically coiled spring members **18**, **22** to connecting members **5** establishing effective lengths between the nodal sites and an architectural special definition (Figures 1A- 6, column 4 lines 20- 65, column 5 lines 3- 22).

As to claim 17, McGaffigan discloses a system having means (tension cable **3**) provided for changing the effective lengths of connecting members **5** to thereby revise the special definition (Figures 1A- 6, column 5 lines 3- 22, column 7 lines 19- 47).

As to claim 18, McGaffigan discloses a system having means (tension cable **3**) provided for selectively changing the effective length of a connecting member **5** (Figures 1A- 6, column 5 lines 3- 22, column 7 lines 19- 47).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGaffigan in view of Dodge (USPN 1,851,159).

As to claim 3, McGaffigan fails to disclose a connector system having three strut members uniformly spaced about a nodal member.

Dodge teaches a connector system having three link members **B**, **C** uniformly spaced about a nodal member **A** (Figures 1 and 2).

It would have been obvious to one having ordinary skill in the art at time the invention was made to modify a connector system as disclosed by McGaffigan to have three strut members uniformly spaced about a nodal member as taught by Dodge as such practice is known within the art.

As to claim 4, Dodge teaches a connector system having a spherical nodal member **A** (Figures 1 and 2).

The applicant is reminded that a change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGaffigan in view of Boyle et al. (USPN 5,640,811).

As to claim 12, McGaffigan fails to disclose connector system having nodal bodies disposed in a substantially two dimensional array.

Boyle et al. teaches a connector system having nodal bodies 5 disposed in a substantially two dimensional array (Figures 8 and 10- 10G).

It would have been obvious to one having ordinary skill in the art to modify a connector system as disclosed by McGaffigan to have nodal bodies disposed in a substantially two dimensional array as taught by Boyle et al. as such practice is known within the art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. The following patents are cited to be added to the applicant's list for they further show the state of the art with respect to connector assemblies:

Eppenbach (USPN 5,590,674) is cited for pertaining to assemblies having link members connected by a spring.

Odin (USPN 2,684,822), Zaishu Ryu (JP 6-220815) and Moore (USPN 4,080,925) are cited for pertaining to assemblies having leg members connected to a nodal body via a spring.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (703) 308-8591. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1114.

MPF

June 4, 2002



Lynne H. Browne
Supervisory Patent Examiner
Group Art Unit 3679